

## GEOLOGICAL SOCIETY.

November 3rd, 1875.—John Evans, Esq., F.R.S., President,  
in the Chair.

“On some new Macrurous Crustacea from the Kimmeridge Clay of the Sub-Wealden boring, Sussex, and from Boulogne-sur-Mer.” By Henry Woodward, Esq., F.R.S., F.G.S.

The first species described by the author belonged to the fossorial family Thalassinidæ, six species of which, belonging to four genera, are now found on the British coasts. The known fossil species are from the Chalk of Maestricht, the Greensand of Bohemia and Silesia, the Chalk of Bohemia, the Greensand of Colin Glen, near Belfast, and the Upper Marine Series of Hempstead, Isle of Wight. All these are referred to the genus *Callianassa*, which also includes the species from the Kimmeridge Clay described in this paper. The fossil is seen in profile on several sections of the core, and has the enlarged hands of the fore limbs more nearly equal in size than in the living species of *Callianassa*; the carapace and segments of the abdomen are smooth; and the latter are somewhat quadrate in profile, contracted at each extremity, and not pointed; and the caudal plates are oval. For this Crustacean the author proposes the name of *Callianassa isochela*.

The second species described belongs to the genus *Mecochirus*, distinguished by the great length of the fore limbs, which is equal to that of the whole body, the oldest known species of which (*M. olifex*, Quenst.) is from the Lower Lias of Württemberg. It was obtained, together with *Lingula ovalis*, from the Kimmeridge Clay of Boulogne, by Mr. J. E. H. Peyton, after whom the author proposes to name it *M. Peytoni*. In this species the fore legs are very finely punctate, and measure 75 millims. in length. The rostrum is somewhat produced; and the carapace, which is finely granulated, measures 30 millims. in length. The antennæ are long and slender. The abdomen measures 45 millims.; and the epimeral borders of the segments are falcate. The species is intermediate in size between *M. socialis*, Mey., and *M. Pearcei*, McCoy, which the author regards as distinct. He also refers to *M. Peytoni* a pair of fore limbs obtained from the Sub-Wealden boring.

“On a new Fossil Crab from the Tertiary of New Zealand.”  
By Henry Woodward, Esq., F.R.S., F.G.S.

In this paper the author described a crab obtained by Dr. Hector, F.R.S., Director of the Geological Survey of New Zealand, from the “Passage-beds” of the Ototara series in Woodpecker Bay, Brighton, on the west coast of the south island of New Zealand. The new species belongs to the genus *Harpactocarcinus*, A. Milne-Edw., which includes six species from the Eocene of Southern Europe. Its nearest ally is *H. quadrilobatus*, Desmar.; but its

carapace is much more tumid, especially on the branchial and gastric regions; the surface of the anterior half of the carapace is nearly smooth, and that of the posterior half finely granulated. The rostrum is short and very obtusely tricuspidate; the orbits shallow and rounded; the hepatic margin bluntly toothed, with a stronger tooth at the epibranchial angles; the divisions of the regions of the carapace faintly indicated; and there is a slightly roughened line on the sides of the gastric intumescence. The characters of the jaw-feet and of the chelæ are described by the author; of the latter the right is considerably larger than the left hand. The specimen was a female. For this species the author proposed the name of *Harpactocarcinus tumidus*.

Dr. Hector explained the sequence of formations in the locality from which the above Crab was derived, and stated that the Ototara series is the upper member of his Cretaceo-Tertiary formation, containing some fossils of decidedly Cretaceous type, such as Saurian bones and fragmentary *Inocerami*, and other forms that are associated with decidedly Mesozoic fossils in the underlying strata. On the other hand, the occurrence of Tertiary forms such as *Nautilus ziczac* (or a nearly allied form) connects it with the Eocene, while the gigantic Penguin (*Palæudyptes antarcticus*, Huxl.) and a Turtle indicate a fauna not unlike that at present existing in adjoining areas.

“On a remarkable fossil Orthopterous Insect from the Coal-measures of Britain.” By Henry Woodward, Esq., F.R.S., F.G.S.

The author commenced by indicating the importance of the examination of the Clay-ironstone nodules of the Coal-measures, in which so many valuable fossils have been discovered, including the remarkable insect described in the present paper. The specimen displays the characters of the four wings, only two of which, however, are nearly perfect; and these measure  $2\frac{1}{4}$  inches in length and 1 inch and  $1\frac{1}{4}$  inch in breadth, the hind wing being the broadest. The author described in detail the characters presented by the venation of the wings, which includes three straight veins running parallel to the fore margin, the third bifurcating near the apex, a fourth much curved vein giving origin to six branches, and having at its base a triangular space, from which arise the other veins of the wing. The body appears to have been about 5 lines broad between the bases of the wings. In front of the wings is the prothorax in the form of two large, rounded, dilated, and veined lobes; it measures 14 lines across and 6 lines in length. In front of these lobes is the head with its eyes, produced in front into a slender process 3 lines long. This insect is considered by the author to be most nearly related to the Mantidæ, the characters of the head and thorax especially being to some extent paralleled in the existing genus *Blepharis*. The author proposed to name the species *Lithomantis carbonarius*, and suggested that *Gryllacris* (*Corydalus*) *Brongniarti* probably belongs to the same genus.

"On the discovery of a Fossil Scorpion in the British Coal-measures." By Henry Woodward, Esq., F.R.S., F.G.S.

The author commenced by noticing the various European and American localities in which fossil Arachnida have been found in the Coal-measures. Hitherto no true Scorpions have been recorded from the English Coal-measures; but in 1874 the author received from Dr. D. R. Rankin a specimen from the Coal-measures near Carlisle, which he regarded as the fossil abdominal segment of a Scorpion; in April last he obtained a fossil Scorpion from the Sandwell-Park Colliery; and in August Mr. E. Wilson forwarded to him several specimens of similar nature in Clay-ironstone nodules from Skegby New Colliery near Mansfield. The specimens are all very imperfect; but the author states that they most closely resemble an Indian form which is probably *Scorpio afer*. He refers the English species provisionally to the genus *Euscorpius*, Meek and Worthen, and proposes to name it *E. anglicus*.

November 17th, 1875.—John Evans, Esq., F.R.S., President, in the Chair.

"On a new modification of Dinosaurian Vertebrae." By Prof. Richard Owen, C.B., F.R.S., F.G.S., &c.

The peculiar modification of the Dinosaurian vertebra noticed by the author occurs in *Tapinocephalus Atherstonii* and *Pareiasaurus bombidens*. In the dorsal vertebrae of the former the centra are nearly flat on both fore and hind surfaces, a structure to express which the author proposes the term "amphiplatyan." The hind surface is very slightly the more concave. The middle of each surface is pierced by a small foramen leading into a cylindrical canal, first slightly expanding and then rapidly contracting to a point, which meets the apex of the similar hollow cone coming from the opposite surface. Similar characters were observed upon the free surface of the anterior sacral and upon that of the posterior of four ankylosed sacra.

The dorso-lumbar vertebrae of the *Pareiasaurus* had centra relatively longer than those of *Tapinocephalus*. Their articular surface is subundulate, convex along a fourth of the periphery, concave at the centre, where there is an excavation corresponding to that in *Tapinocephalus*, but with a relatively wider aperture, a rather more constricted canal, a shorter terminal cone, and an interval of osseous tissue separating the apices of the cones from the fore and hind surfaces. In what is probably the first cervical vertebra of the same Dinosaur, the centrum is so concave on both surfaces as to become amphiœlian.

In these unossified tracts of the middle of the centrum in the two genera above-mentioned the author sees indications of a persistent trace of the primitive "chorda dorsalis;" and he calls attention to the resemblance thus set up between these probably Triassic Dino-

saur and the lower Ganocephalous reptiles of the Carboniferous series, in which, however, the vertebral centra are more widely perforated.

January 19, 1876.—John Evans, Esq., F.R.S., President,  
in the Chair.

“On some Unicellular Algæ parasitic within Silurian and Tertiary Corals, with a notice of their presence in *Calceola sandalina* and other fossils.” By Prof. P. Martin Duncan, F.R.S., V.P.G.S., &c.

After noticing the works of Quekett, Rose, Wedl, and Kölliker, which refer to the existence of minute parasitic borings in recent corals, recent shells, and a few fossil mollusca, the author describes the appearance presented by a great system of branching canals about 0·003 millim. in diameter, in a Thamnastræan from the Lower Cainozoic of Tasmania. He then proceeds to examine the corresponding tubes in *Goniophyllum pyramidale* from the Upper Silurian formation. In sections of that Coral one set of tubes runs far into the hard structure; these are straight, cylindrical, and contain the remains of vegetable matter. Neither these tubes, nor any others of the same parasite, have a proper wall; they are simply excavations, the filiform alga replacing the organic and calcareous matter abstracted. In some places the dark carbonaceous matter is absent, and the lumen of the tube is distinguishable by the ready passage of transmitted light. Other tubes run parallel to the wall, and enter by openings not larger than their common calibre. But there are others which have a larger diameter, and in which the cytoplasm appears to have collected in masses resembling conidia; and where fossilization has destroyed much of the continuity of a tube a series of dark and more or less spherical bodies may be seen. In some places, especially in the spaces between the minute curved dissepiments and tabulæ, hosts of globular spores, with or without tubes emanating from them, may be seen. In *Calceola sandalina* corresponding structures exist sometimes, and the method of entry of the parasite can be examined. The author gave two instances, one of which was seen in section. A decided flask-shaped cavity existed in the wall of the shell, opening outwards and rounded and closed inwards. It was crowded with globular spores (oospores); and these, where near the sides, had penetrated the hard shell, and thus gave a rugged and hairy appearance to the outline of the flask-shaped cavity. After noticing minute structures in a Brachiopod included in a Silurian Coral, and in a Lower Silurian Foraminifer, the author asserted, from the results of his late researches upon the algæ parasitic in Corals out of his own aquarium, that the fossil and recent forms are analogous in shape, size, and distribution. He considers that the old parasite resembles *Saprolegnia ferox* in its habit; and as he considers that *Empusina*, *Saprolegmia*, and *Achlya* (members of the Protista) are the same

organisms living under different physical conditions, he names the old form *Palæachlya penetrans*; and he believes that it entered the wall by the spores fixing on to the organic matter, and growing by its assimilation, and that carbonic anhydride was evolved. He considers that this acid, assisted by the force of growth and the movement of the cytioplasm, are sufficient to account for the presence of the tubes. Finally, the author draws attention to the probable similarity of external conditions in the Silurian and present times, and to the wonderful persistence of form of this low member of the Protista.

### MISCELLANEOUS.

*On some Ornithological Errors in the 'Reliquiæ Aquitanicæ.'*

By ALFRED NEWTON, M.A., F.R.S., V.P.Z.S., &c.

THAT Section (xxiii.) of the recently completed 'Reliquiæ Aquitanicæ' which contains the "Observations on the Birds whose Bones have been found in the Caves of the South-west of France, by M. Alphonse Milne-Edwards," &c. &c., includes some errors of a rather grave character—due no doubt, in a great measure, to the fact that the translator of the same was not a professed ornithologist. As, however, these errors, if not corrected, may lead to serious misconceptions on the part of archæontologists who have no special knowledge of birds, I beg permission to notice them in the 'Annals and Magazine of Natural History,' only premising that I do so at the instance of the Author of the section and with the assent of the Editor of the whole work.

Page 226, line 26. "THE TAWNY EAGLE. *Falco fulvus*, Linn." This is the species we know as the Golden Eagle, *Aquila chrysaëtus*. That which we commonly call the "Tawny Eagle" is *A. navioides*, a southern bird and one not likely to have inhabited Aquitaine at the period when the "caves were filled." On the next page (lines 10, 11) the name "Golden Eagle" is obviously used in a wrong sense.

Page 227, line 14. "THE SCREAMING EAGLE. *Aquila clanga*, Pallas?" This is a new English name for a bird now recognized as distinct from the so-called *A. naviæ* or Spotted Eagle of authors. The *A. clanga* is a well-known species in Eastern Europe, and may well have been that of the Reindeer-period in France. "Screaming Eagle" is a name rather applicable to the *Haliaëtus vocifer* of South Africa.

Page 227, lines 20, 21. "Barred-tailed Eagle (*A. fasciata*, Vieillot)" is another new English name for a species long known as Bonelli's Eagle.

Page 228, line 22. "THE COMMON FALCON" is not the common English name for this species, which is the Peregrine Falcon